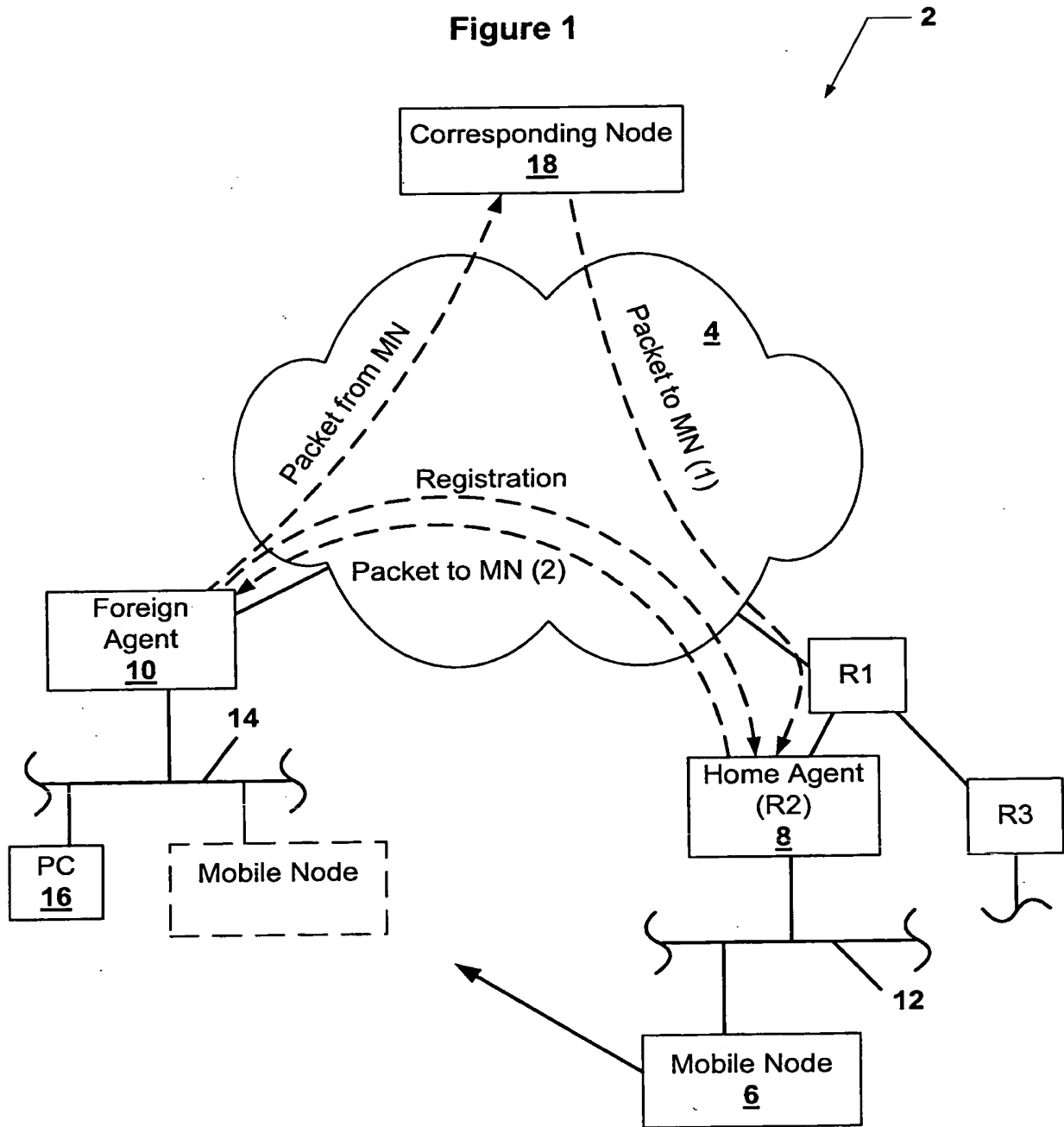


Figure 1



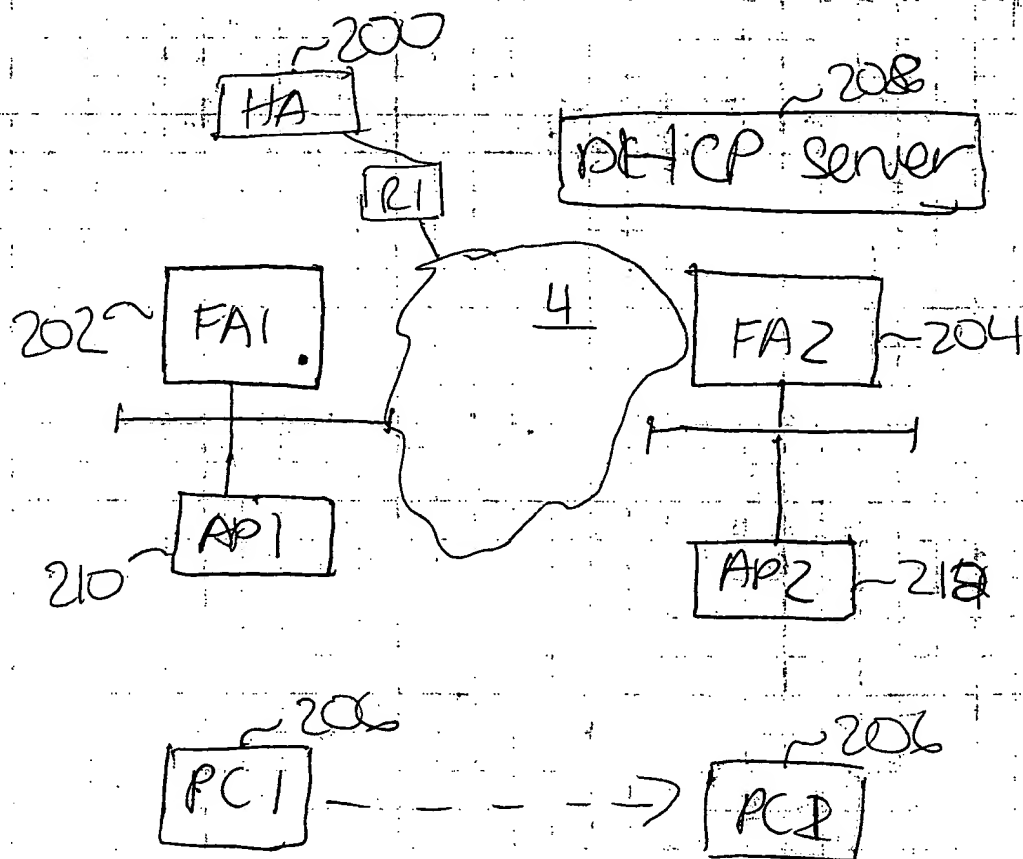


FIG. 2

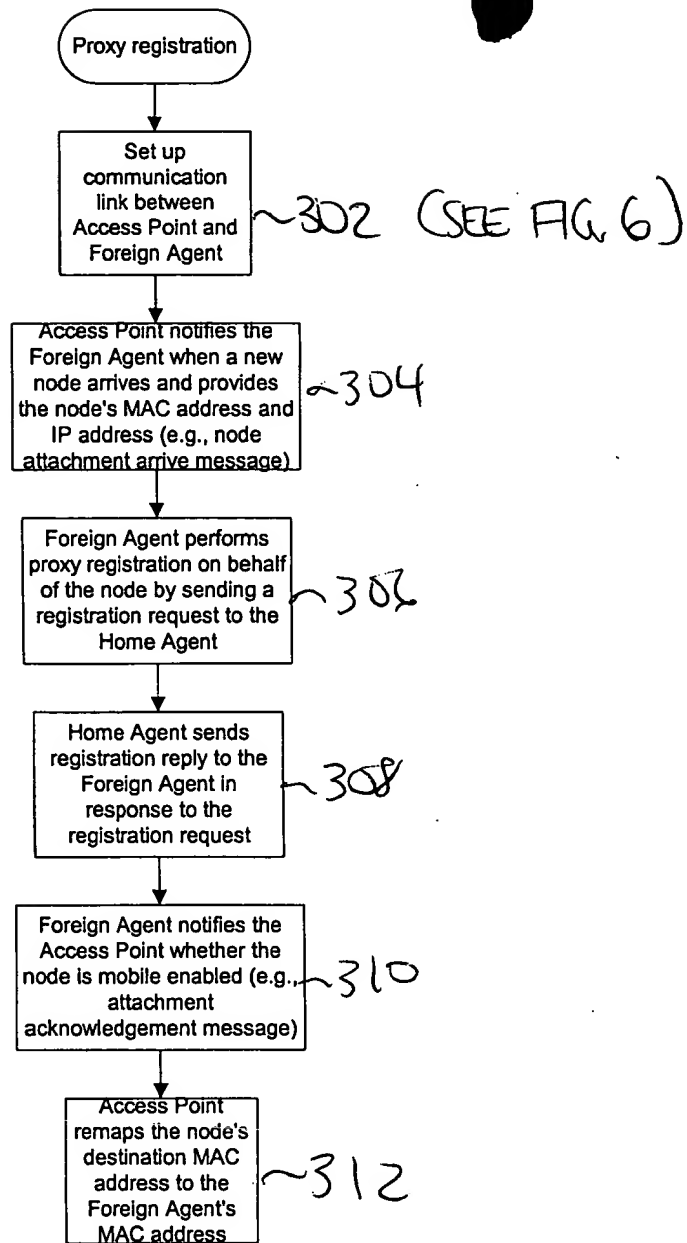


FIG. 3

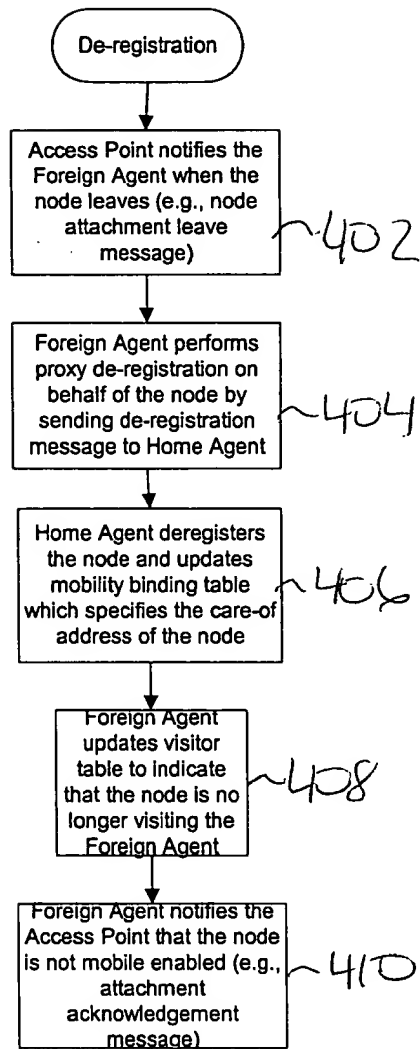


FIG. 4

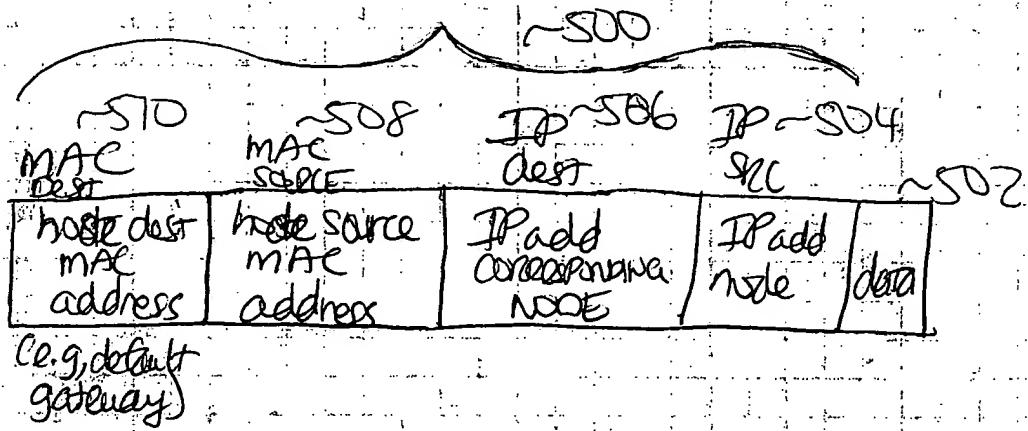


FIG. 5

Set up communication link

302 (FROM FIG. 5)

Receive agent solicitation from Access Point indicating that it supports proxy Mobile Node service

602

Is FA interface enabled for proxy Mobile Node support?

604

No

FA supports standard registration process (RFC 2002)

606

Yes

Append proxy Mobile Node advertisement extension to agent advertisement to indicate that the Foreign Agent provides proxy Mobile Node service

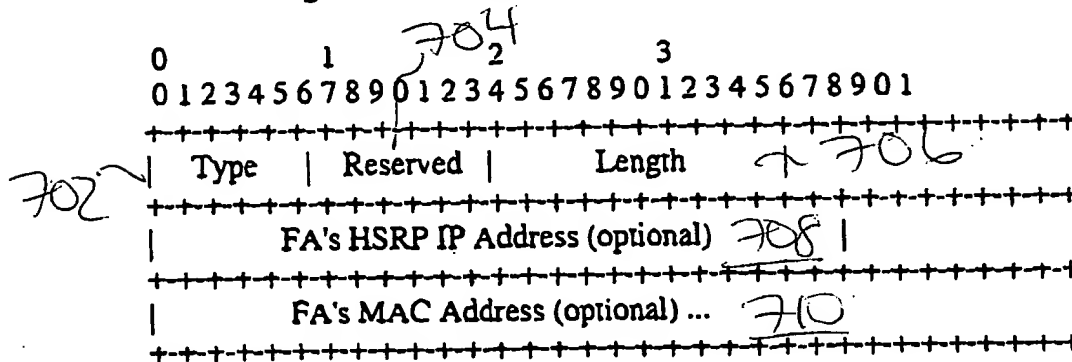
608

Send agent advertisement

610

FIG. 6

The following will be placed in the Normal Vendor/Organization Specific Extension's (NVSE) Opaque Data field. NVSE is used so receivers can ignore this extension if they don't recognize it.



Type 10 (Proxy MN Advertisement)

Reserved Sent as 0; ignored on reception.

Length 0 (default); but nonzero when HSRP addresses included.

FA's HSRP IP Address

The IP address of FA when HSRP is enabled.
By default, this field is not in message.

FA's HSRP MAC Address

The MAC address of FA when HSRP is enabled.
By default, this field is not in message.

The AP should store the FA's MAC address for future use (see section 2.4). The FA's IP and MAC addresses can be gleaned from the advertisement packet. When HSRP is enabled on the interface, FA will include the HSRP IP and MAC address in the extension. This can be deduced by AP by the Length field. This allows FA redundancy (which is not yet supported for Mobile IP). Therefore HSRP support is not necessary in the initial deployment.

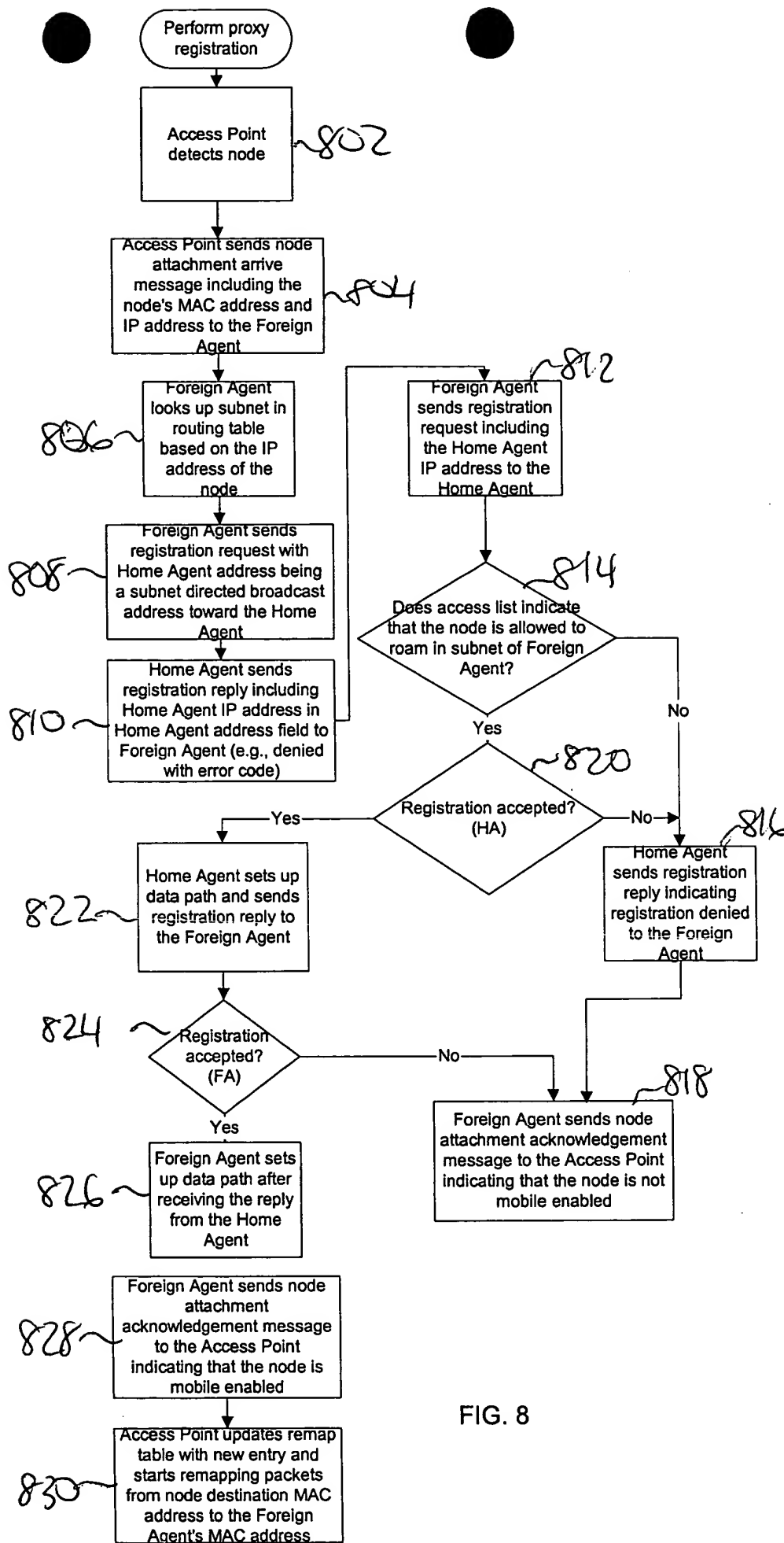
Note: there is no acknowledgement of receiving advertisement

2.1.2 Access Point Considerations

An AP that supports proxy MN service must send agent solicitation when it comes up on the network. It will find out if service is supported by the FA based on the reply. If it does not hear reply, it should send 3 times before giving up.

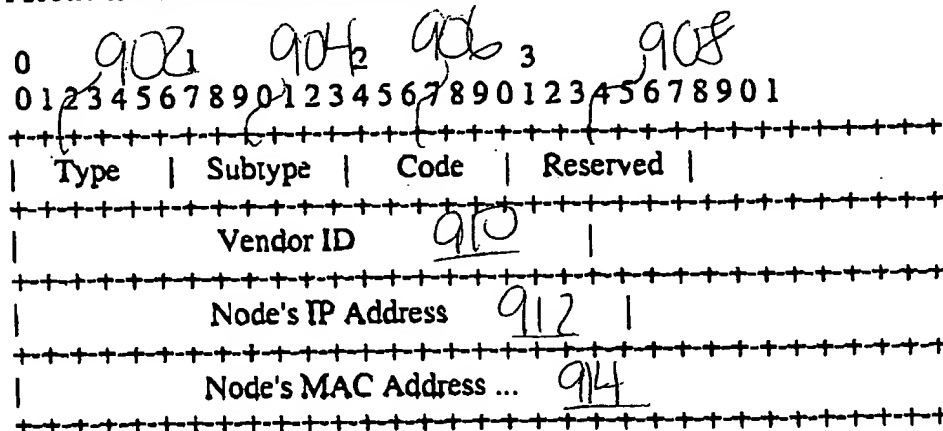
2.2 Attachment

AP notify FA when new device arrives or leaves. For attachment,



AP will retransmit a few times if no reply heard from FA. If reply has 'Fix' code, then AP provides fixed wireless connectivity. If reply has 'Mobile' code, then AP provide proxy mobility (see section 2.4). For detachment, reply is merely an acknowledgement only. FA will put in 'Mobile' code, which does not need to be verified by AP.

Mobile IP Node Attachment format:



Type Vendor Specific Type (TBD) - use 99 for now

FIG. 9

SubType 1 (Attachment)

Code 1 (Arrive)
2 (Leave)

Reserved Sent as 0; ignored on reception.

Vendor ID

The high-order octet is 0 and the low-order 3 octets are the SMI Network Management Private Enterprise Code of the Vendor in network byte order, as defined in the Assigned Numbers RFC [3].

Note: Cisco Systems is decimal 9.

Node's IP Address

The IP address of the node which attached to Access Point

Node's MAC Address

The MAC address of the node which attached to Access Point

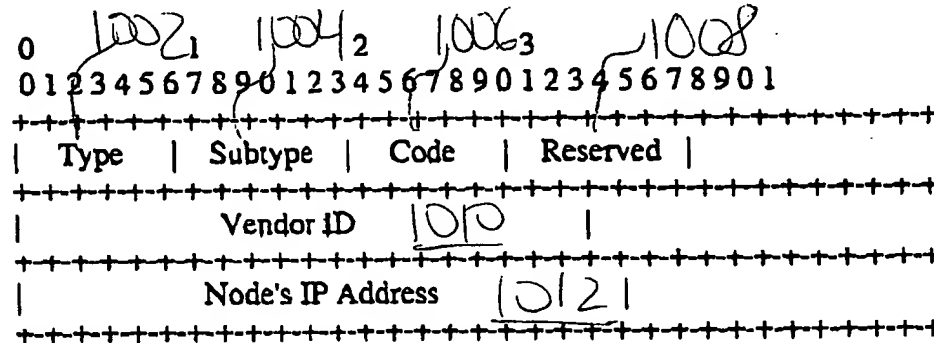
2.3 Mobility Setup

After receiving Mobile IP Node Attachment, FA checks its access list (if exists) to see if source IP address is allowed to roam. If not, FA sends back Mobile IP Node Attachment Acknowledgement with

'Fix' code.

If device is allowed to roam, then FA registers back to the home agent (HA) on its home subnet to establish a tunnel between FA and HA. The HA will set up a host route for device going out tunnel interface. FA will set up device in its visitor list to forward decapsulated packets from tunnel to device. When Mobile IP operation completes, FA notify AP that device is mobile enabled. If for any reason that Mobile IP operation is unsuccessful (ie tunnel could not be set up), FA notify AP with 'Fix' code.

Mobile IP Node Attachment Acknowledgement format:



Type Vendor Specific Type (TBD) - use 99 for now **FIG. 10**

SubType 2 (Attachment Acknowledgment)

Code 1 (Fix)
2 (Mobile)

Reserved Sent as 0; ignored on reception.

Vendor ID

The high-order octet is 0 and the low-order 3 octets are the SMI Network Management Private Enterprise Code of the Vendor in network byte order, as defined in the Note: Cisco Systems is decimal 9.

Node's IP Address

The IP address of the node which attached to Access Point

2.4 Traffic Redirect

When AP receives Mobile IP Node Attachment Acknowledgement with 'Mobile' code, it will start remapping device's destination MAC address to FA's MAC address.

What about broadcasts? What type of applications require broadcasts?

